

A KEY TO THE GENERA AND A CLASSIFICATION OF THE NORTH AMERICAN CLERIDAE (COLEOPTERA)¹

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The primary purpose of this paper is to provide a new key that will facilitate identification of the genera of the family Cleridae occurring in the continental United States and Canada. It could, in effect, be considered a supplement to Arnett's (1962) key.³ The new generic name and synonymy proposed are taxonomic changes considered necessary following a study of representatives of all the North American clerid genera except *Perilypus* and *Ababa*. Specimens of these genera were not available, however, they are adequately characterized in the literature. Since it has not been possible to examine the type species of each genus under consideration, some synonymy as presented in the Corporaal Catalog (1950) has been accepted without confirmation.

In attempting to establish relationships of the clerid genera, the writer has found the currently accepted arrangement of the family into seven subfamilies to be unsatisfactory. A clearer and more realistic expression of relationships can be made by recognizing two subfamilies, each of which is divided into several tribes. This, essentially is the classification utilized by Schenkling in 1910. The only change in the present paper is the recognition of the Epiphloeini [NEW STATUS] as a distinct tribe; this group was formerly known as a subfamily, the Epiphloeinae.

The last half of this article is a checklist of the genera included in the key. Its arrangement is similar to that of the list published by Arnett (1962). The bibliography contains citations to be added to Arnett's bibliography.

KEY TO NORTH AMERICAN GENERA OF THE FAMILY CLERIDAE

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|-------|--|----|
| 1. | Fourth tarsal segment approximately equal in size to third segment; sides of prothorax usually not margined (CLERINAE) ----- | 2 |
| | Fourth tarsal segment small, usually indistinct, embedded between lobes of third segment; sides of prothorax margined, at least near base (KORYNETINAE)----- | 5 |
| 2(1). | Anterior coxal cavities confluent and usually open behind ----- | 3 |
| | Anterior coxal cavities separated and closed behind; first tarsal segment distinctly visible from above (TILLINI) ----- | 7 |
| 3(2). | Antenna 11-segmented, terminal segment as long or longer than tenth segment ---- | 4 |
| | Antenna appearing 10-segmented, eleventh segment small, closely united with enlarged tenth segment; eyes entire or nearly so (PHYLLOBAENINI)----- | 14 |
| 4(3). | Eyes nearly entire; anterior tarsi broadly dilated, segments short and compact; thoracic punctures elongate-oval (THANEROCLERINI) ----- | 16 |
| | Eyes deeply emarginate; anterior tarsi of usual form; thoracic punctures circular or indistinct (CLERINI) ----- | 18 |
| 5(1). | Eyes entire or emarginate in front; antenna 10- or 11-segmented----- | 6 |
| | Eyes emarginate internally; antenna 9- or 10-segmented (EPIPHLOEINI)----- | 26 |

¹ Published with the approval of the Director of the Idaho Agricultural Experiment Station as Research Paper No. 555.

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³ The manuscript of this article was received too late for inclusion in Arnett's manual.—Ed.

- 6(5). Antenna 10- or 11-segmented, terminal three segments enlarged, forming a loose club which is longer than the preceding segments together or if equal in length to the preceding segments the eyes are coarsely granulate (ENOPLIINI)----- 28
 Antenna 11-segmented, terminal three segments enlarged, frequently forming a compact club which is shorter than the preceding segments together or if equal in length to the preceding segments the eyes are finely granulate (KORYNETINI)-- 32
- 7(2). Antenna 8- to 10-segmented----- 8
 Antenna 11-segmented ----- 9
- 8(7). Antenna of male with eight segments, of female with nine segments-----MONOPHYLA
 Both sexes with 10-segmented antennae-----CALLOTILLUS
- 9(7). Eyes finely granulate ----- 10
 Eyes coarsely granulate ----- 11
- 10(9). Hind femora extending beyond elytral apices; antennal segments flattened ---- PERILYPUS
 Hind femora not extending beyond elytral apices; antennal segments circular in cross section -----CYMATODERELLA
- 11(9). Front of head without horns; elytra with striated punctures----- 12
 Front of head with a prominent pair of horns arising in front of eyes; elytra without striated punctures -----BOSTRICHOCLERUS
- 12(11). Antenna with eleventh segment ovate, shorter than the two preceding segments together ----- 13
 Antenna with eleventh segment subcylindrical, longer than the two preceding segments together -----LECONTELLA
- 13(12). Pretarsal claws with two teeth on inner margin subequal, situated closely together well above base of claw-----ARAEODONTIA
 Pretarsal claws with two teeth on inner margin equally spaced from apex, basal tooth shorter and stouter -----CYMATODERA
- 14(4). Pretarsal claws simple or slightly thickened at base----- 15
 Pretarsal claws with a broad basal tooth-----PHYLLOBAENUS
- 15(14). Antenna with third segment twice as long as broad; pronotum distinctly longer than broad -----ISOHYDROCERA
 Antenna with third segment as broad or broader than long; pronotum nearly equilateral -----WOLCOTTIA
- 16(3). Anterior coxal cavities closed behind; sides of prothorax more or less carinate ----- 17
 Anterior coxal cavities open behind; sides of prothorax not carinate-----ZENODOSUS
- 17(16). Pronotum with sides strongly constricted at base-----THANEROCLERUS
 Pronotum with sides rounded, slightly narrowing at base-----ABABA
- 18(4). Maxillary and labial palpi with terminal segments securiform or triangular----- 19
 Maxillary palpus with terminal segment cylindrical or narrowed apically; labial palpus with terminal segment securiform----- 22
- 19(18). Eyes finely granulate; eighth antennal segment globular or transverse----- 20
 Eyes coarsely granulate; eighth antennal segment about twice as long as broad-----OPILO
- 20(19). Antenna with a distinct, 3-segmented club ----- 21
 Antenna with last four to seven segments forming a gradually enlarged club-----SERRIGER
- 21(20). Antennal club loosely formed; maxillary palpus with terminal segment securiform -- AULICUS
 Antennal club compact; maxillary palpus with terminal segment narrowly triangular -----TRICHODES
- 22(18). Eyes usually finely granulate; antenna gradually enlarged apically or with a terminal segmented club; protibia usually not conspicuously enlarged apically ----- 23
 Eyes coarsely granulate; antenna serrate; protibia abruptly and conspicuously enlarged beyond middle -----PRIOCERA
- 23(22). Elytra unicolorous, if bicolored the markings consist of a pair of discal vittae ----- 24
 Elytra bicolored or tricolored, the markings consisting of distinct fasciae of hairs and/or transverse integumental spots----- 25
- 24(23). Antenna with segments gradually enlarged apically, not forming a distinct club--COLYPHUS
 Antenna with last three segments forming a small but distinct, rather loose club -----PLACOPTERUS
- 25(23). Antenna with terminal four or five segments gradually enlarged, forming a loose club; elytra with basal third usually very coarsely and deeply punctured and with a subapical fascia of hairs-----THANASIMUS
 Antenna with terminal three segments abruptly enlarged, forming a usually compact club; elytra not coarsely and deeply punctured, usually without a subapical fascia of hairs -----ENOCLETERUS

- 26(5). Antenna with 3-segmented terminal club longer than length of preceding segments together ----- 27
 Antenna with 3-segmented terminal club shorter than length of preceding segments together -----PHLOGISTOSTERNUS
- 27(26). Antenna 10-segmented, segments of funicle distinct-----NEICHNEA
 Antenna apparently 9-segmented, segments of funicle partially fused or closely united -----ICHNEA
- 28(6). Sides of pronotum rounded----- 29
 Sides of pronotum angulate or strongly constricted at base----- 31
- 29(28). Antenna 11-segmented ----- 30
 Antenna 10-segmented; eyes finely granulate; terminal segments of labial and maxillary palpi slightly triangular-----PITYCARA
- 30(29). Eyes coarsely granulate; terminal segments of maxillary and labial palpi slightly triangular ----- ORTHOPLEURA
 Eyes finely granulate; terminal segments of maxillary and labial palpi securiform-- CHARIESSA
- 31(28). Antenna 11-segmented ----- CORINTHISCUS
 Antenna 10-segmented ----- CREGYA
- 32(6). Maxillary and labial palpi with terminal segments triangular; anterior coxal cavities open behind ----- 33
 Maxillary and labial palpi with terminal segments narrowed apically; anterior coxal cavities narrowly closed behind----- 34
- 33(32). Robust; eyes finely granulate; first tarsal segment visible from above, about equal in length to second segment ----- LOEDELIA
 Slender; eyes coarsely granulate; first tarsal segment not visible from above, much shorter than second segment -----TARSOSTENUS
- 34(32). Eyes small, deeply emarginate and finely granulate-----LEBASIELLA
 Eyes usually large, entire or shallowly emarginate and coarsely granulate-----NECROBIA

Cymatoderella Barr, new genus

Type species: *Tillus collaris* Spinola

Tillini, small, somewhat robust. *Head* short; labrum transverse, front margin subtruncate; maxillary palpus with last segment subcylindrical, somewhat flattened and tapering towards apex; labial palpus with last segment securiform; eyes rather small, finely granulate, broadly and deeply emarginate above and behind bases of antennae; antenna eleven-segmented, heavy, segments not flattened, basal segment robust and curved, segments two to four subequal, short, cylindrical, segments five to ten subequal, robust, strongly serrate, fifth segment nearly twice as long and broad as second segment, last segment slightly longer than tenth segment. *Prothorax* subcylindrical, without lateral margins, nearly smooth, finely punctured, broadest in front of middle, slightly narrower than head; sides feebly constricted behind front margin, strongly constricted behind middle; subbasal tumescences absent. *Elytra* covering abdomen; each elytron with 10 rows of punctures; sides gradually expanded behind middle; suture closed. *Hindwings* present and functional. *Metasternum* with a small, elongate depression near front margin. *Legs* rather slender; hind femora not extending beyond elytral apices; tarsi with five segments visible from above; pre-tarsal claws slender, with a broad, triangular basal tooth and a slender median tooth. *Abdomen* with six visible sternites; sexual modifications slight.

This genus is proposed for the reception of *Tillus collaris* Spinola and *T. patagoniae* Knull. Reassignment of these species removes the genus *Tillus* from the New World. The characteristic features of *Cymatoderella* are the small and finely granulate eyes, the sides of the prothorax being strongly compressed behind the middle and the rather heavy antennae that are serrate from the fifth segment. In addition, the antennal segments are nearly circular in cross section.

The affinities of this genus appear to be with the New World *Cymatodera*. Similarities in general fascies, in the structure of the antennae and pre-tarsal claws and in the nature of the mouthparts and prothorax are evident

in the two genera. Furthermore, the shortened second, third and fourth antennal segments and the lack of distinct secondary sexual modifications on the last visible abdominal segment of the species assigned to *Cymatoderella* indicate a close relationship with the *puncticollis* species group of *Cymatodera*.

Serriger Spinola

Serriger Spinola, 1841, Rev. Zool. (Soc. Cuv.), 4:73.

Xenoclerus Schenkling, 1902, Bull. Mus. Hist. Nat. (Paris), 8:327. (NEW SYNONYMY)

Xenoclerus must be relegated to synonymy under the lesser-known genus *Serriger*. In the past it has been separated from *Serriger* on the basis of the number of segments making up the antennal club. However, this has been found to be a very variable character in both groups and one that is not of generic significance. No other anatomical or biological features have been noted that would warrant the retention of *Xenoclerus* as a valid genus.

CLASSIFICATION OF THE GENERA OF NORTH AMERICA

CLERIDAE

CLERINAE

TILLINI

Monophylla Spinola, 1841, 4 spp., eastern, southwestern and western United States, Lower California.

Macrotelus Klug, 1842

Elasmocerus LeConte, 1849

Callotillus Wolcott, 1911, 2 spp., Florida and southwestern United States, Mexico and Central America.

Perilypus Spinola, 1841, 1 sp., *P. carbonarius* Spinola, 1844, New Mexico, California and Nevada.

Cymatoderella Barr, 1962, 2 spp., southern United States, Ohio, Texas, Arizona and Mexico.

Tillus auctorum, nec Olivier, 1780

Lecontella Wolcott and Chapin, 1918, 2 spp., eastern, central and southwestern United States, Mexico.

Bostrichoclerus Van Dyke, 1938, 1 sp., *B. bicornis* Van Dyke, 1938, Gulf of California Islands and California.

Araeodontia Barr, 1952, 3 spp., southwestern United States and northern Mexico.

Cymatodera Gray, 1832, 61 spp., widely distributed, primarily in southwestern United States and northern Mexico.

Cymatoderus Desmarest, 1860

[*Tillus* Olivier, 1780, not in United States.]

PHYLLOBAENINI

Phyllobaenus Dejean, 1837, 58 spp., generally distributed.

Hydnocera Newman, 1838

Theano Chevrolat, 1843, *nec* Laporte, 1836

Isohydnocera Chapin, 1917, 14 spp., eastern, central and southern United States to Arizona.

Wolcottia Chapin, 1917, 3 spp., eastern and Central United States, Arizona.

THANEROCLERINI

Thaneroclerus Lefebvre, 1838, 1 sp., *T. buquet* (Lefebvre), 1835, cosmopolitan, known from California, Florida and New York in the United States.

Thaneclerus Desmarest, 1860

Thanateroclerus Gemminger and Harold, 1869

Taneroclerus Chevrolat, 1880

Zenodosus Wolcott, 1910, 1 sp., *Z. sanguineus* (Say), 1835, eastern, central and southern United States and southeastern Canada.

Xenodosus Champlain, 1920

Ababa Casey, 1897, 1 sp., *A. tantilla* (LeC.) 1865, eastern, central and southern United States.

Prionodera Wolcott, 1910, *nec* Erickson, 1847

Prionostichaeus Wolcott, 1911

Wolcottella Lucas, 1920

CLERINI

Priocera Kirby, 1818, 3 spp., Arizona and eastern, central and southern United States. 2 additional species, *P. lecontei* Wolcott, 1910, and *P. pusilla* Kirby, 1826, questionably recorded from California and "North America."

Opilo Latreille, 1802, 2 spp., cosmopolitan.

Notoxus Fabricius, 1775 *nec* Geoffroy, 1762

Opilus Latreille, 1806

Eupocus Illiger, 1807

Opilio auctorum

Colyphus Spinola, 2 spp., central United States, Texas, Mexico.

Cleronomus Klug, 1842

Derestenus Chevrolat, 1843

Thanasimus Latreille, 1806, 4 spp., widely distributed. An attempt was made to introduce the European *T. formicarius* Linnaeus into West Virginia in 1892.

Cleroides Schaeffer, 1777 (not binary)

Pseudoclerus Jacquelin du Val, 1860

Placopterus Wolcott, 1910, 4 spp., eastern, central and southern United States and Texas.

Poecilochroa Chevrolat, 1876, *nec* Westring, 1874

Phloeopterus Britton, 1920

Ploeopterus Leng, 1920

Phloepterus Wolcott, 1939

Enoclerus Gahan, 1910, 40 spp., generally distributed.

Clerus auctorum nec Fabricius, 1775

Trichodes Herbst, 1792, 11 spp., generally distributed.

Clerus Curtis, 1824 *nec* Fabricius, 1775

Pachyscelis Hope, 1840

Aulicus Spinola, 1841, 7 spp., Texas, Arizona, California and Mexico.

Serriger Spinola, 1841, 2 spp., California, Arizona, Idaho.

Xenoclerus Schenkling, 1902

KORYNETINAE

EPIPHLOEINI

Phlogistosternus Wolcott, 1944 3 spp., eastern, central and southern United States, Texas to California.

Phyllobaenus Spinola, 1844 *nec* Dejean, 1837

Neichnea Wolcott and Chapin, 1918, 1 sp., *N. laticornis* (Say), 1835, eastern and central United States.

Ellipotoma Wolcott, 1910 *nec* Spinola, 1844

Ichnea Laporte, 1836, 1 sp., *I. elongata* Knull, 1939, Arizona.

Ichenea Chevrolat, 1874

ENOPLIINI

Orthopleura Spinola, 1844, 3 spp., eastern, central, southern and southwestern United States, Mexico.

Dermestoides Schaeffer, 1771 (not binary)

Pyticara Spinola, 1841, 5 spp., central and southwestern United States.

Pyticera Spinola, 1844

Pelonides Kuwert, 1894

Chariessa Perty, 1830, 6 spp., widely distributed.

Brachymorphus Chevrolat, 1835

Pelonium Spinola, 1844 (in part)

Tarandocerus Chevrolat, 1876 (in part)

Corinthiscus Fairmaire and Germain, 1861, 4 spp., widely distributed.

Philyra Laporte, 1836, *nec* Leach, 1817, *nec* Haan, 1833

Pelonium Spinola, 1844 (in part)

Tarandocerus Chevrolat, 1876 (in part)

Cregya, Wolcott 1910 (in part)

Cregya LeConte, 1861, 3 spp., eastern, central and southern United States, Texas.

Galeruclerus Gahan, 1910

Pelonium auctorum

KORYNETINI

Tarsostenus Spinola, 1844, 1 sp., *T. univittatus* (Rossi), 1792, cosmopolitan.

Loedelia Lucas, 1920, 2 spp., New Mexico, Arizona, California, Oregon.

Necrobioides Gahan, 1910 *nec* Fairmaire, 1882

Lebasiella Spinola, 1844, 4 spp., Pennsylvania, Texas, Arizona, and California.

Lebasiella Spinola, 1849

Necrobia Olivier, 1795, 3 spp., cosmopolitan.

Agonolia Mulsant, 1863

[*Korynetes* Herbst, 1792, not in United States.]

[*Opetiopalpus* Spinola, 1844, not in United States.]

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